Dominion
55 Ashby Ridge Road, Parkersburg, WV 26104
Web Address: www.dom.com

Dominion

February 1, 2012

The Natural Gas STAR Program
U.S. EPA (6207J)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Please find enclosed the Natural Gas STAR Implementation Plan for Dominion Transmission, Inc. This is the first submittal for Dominion Transmission and we look forward to working with you as we continue to implement practices to minimize methane releases in our natural gas transmission system.

Should you have any questions regarding this submittal, please do not hesitate to contact me at (304)-464-5961.

Sincerely,

Roberta J. Jackson

Roberta J. Jackson, P.E.
Manager, Environmental Regulation

cc:
Mary Beth Stanton
Brian Sheppard
Jeff Barger
Paul Ruppert
Lisa Moerner

Received 2/10/12

2

OMB Control No. 2060-0328
Expires 07/31/2011

# Implementation Plan


## Transmission Sector

### Company Information

Partner Address Label Here

*If the information provided above is incorrect, please make corrections below.*

| | |
|---|---|
| Company Name: | Dominion Transmission, Inc. |
| Gas Star Contact: | Roberta J. Jackson |
| Position: | Manager, Environmental Regulation |
| Address: | 55 Ashby Ridge Road |
| | |
| City, State, Zip Code: | Parkersburg, WV 26104 |
| Telephone: | 304-464-5961 |
| Fax: | |
| Email: | roberta.j.jackson@dom.com |

### Implementation Plan Elements

**ELEMENT 1 Best Management Practices (BMPs)**

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the transmission sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are 3 core BMPs for the transmission sector.

**BMP 1** Directed inspection and maintenance at compressor stations
**BMP 2** Use of turbines at compressor stations
**BMP 3** Identify and replace high-bleed pneumatic devices

For detailed information on these BMPs, please refer to the Lessons Learned publications on the Natural Gas STAR website: *epa.gov/gasstar/tools/recommended.html*.

**ELEMENT 2 Partner Reported Opportunities (PROs)**

Current partners have reported many processes and technologies that are considered "other Best Management Practices" by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions. PROs are made available to all partners, and can be viewed at: *epa.gov/gasstar/tools/recommended.html*.

**ELEMENT 3 Inventory Past Reductions**

Partners are encouraged to report past methane emission reductions back to 1993. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. More information is available in the Spring 1999 Natural Gas STAR Partner Update, which can be viewed at: *epa.gov/gasstar/newsroom/partnerupdate.html*.

*The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program.*

OMB Control No. 2060-0328
Expires 07/31/2011

# ELEMENT 1
## Best Management Practices

### BMP 1
### Implement Directed Inspection and Maintenance at Compressor Stations

A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.

Estimated Reduction Potential
8,540 Mcf per station

Will you be implementing this BMP? ☒ Yes ☐ No

If no, why?
- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?
- ☒ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

Compressor stations will be inspected to detect and remediate leaks and other issues. Subsequent inspections are scheduled based on previous inspection data.

**Activity Summary**

Total number of compressor stations? 102

Total number of compressor stations at which DI&M will take place? 91

**Inspection Schedule**

Stations will be inspected: ☐ quarterly ☐ annually ☒ biannually ☐ other _____

Please list in detail the number of compressor stations that will implement BMP 1 in upcoming years.

| | |
|---|---|
| Year 2011 | Number of compressor stations 1 |
| Year 2012 | Number of compressor stations 90 |
| Year 2013 | Number of compressor stations TBD |
| Year 2014 | Number of compressor stations TBD |

**Additional Information on Anticipated Plans and Projects**

If additional space is needed, please continue on the back.

OMB Control No. 2060-0328
Expires: 07/31/2011

## BMP 2
## Use of Turbines at Compressor Stations

Reciprocating engines used to drive compressors throughout transmission systems release significant amounts of methane in their exhaust. Replacing these engines with turbines can reduce a large portion of these methane emissions.

Estimated Reduction Potential
0.234 Mcf/hp/hr per replacement

Will you be implementing this BMP? ☐ Yes ☒ No

If no, why?

- ☒ Not cost effective
- ☐ May consider at a later date
- ☐ Have already implemented
- ☐ Other _____ please describe:

Not cost effective at the volume levels of our stations.

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

### Activity Summary

Please fill out the table below to show the total number of engines selected for BMP 3.

| | Reciprocating Engines in Operation | Reciprocating Engines to be Retired | Turbines to Replace Retired Reciprocating Engines | New Turbine Installations (i.e., not Replacing Retired Engines) |
|---|---|---|---|---|
| Number | | | | |
| Horsepower | | | | |
| Fuel use (e.g., MMcf/year) | | | | |

### Installation Schedule

Total number of turbines installed by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Total number of reciprocating engines retired by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

### Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

OMB Control No. 2060-0328
Expires 07/31/2011

# BMP 3
## Identify and Replace High-Bleed Pneumatic Devices

Pneumatic devices used in the transmission sector actuate isolation valves and regulate gas flow and pressure at compressor stations, pipelines, and storage facilities. In the distribution sector they are used on meter runs at gate stations for regulating flow and pressure. Replacing high-bleed pneumatic devices with low- or no-bleed devices reduces or eliminates emissions and improves safety.

Estimated Reduction Potential

124 Mcf/yr/device

Will you be implementing this BMP? ☒ Yes ☐ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Have already implemented
- ☐ Other _____ please describe:

We will pilot this project in one area. However, large bleed devices in other areas are under consideration for replacement.

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☒ Pilot Project
- ☐ Other _____

There are 55-60 devices in the pilot area, representing 10-15% of the system devices.

Please describe:

Replacements in years 2 through 4 to be determined based on results of pilot project.

### Activity Summary

Number of high-bleed pneumatic devices in system? 60

Number of high-bleed pneumatic devices to be replaced? 17

### Replacement Schedule

Number of high-bleed pneumatic devices to be replaced by the end of:

Year 1: 17 Year 2: TBD Year 3: TBD Year 4: TBD

### Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

OMB Control No. 2060-0328
Expires: 07/31/2011

# ELEMENT 2
## Partner Reported Opportunities

| PROs |
|---|
| Your company may take advantage of additional technologies or practices to reduce methane emissions. These can be reported to Natural Gas STAR as PROs. Following is a list of some of the PROs that have been reported by other Gas STAR partners, which may be applicable to your operations (for more information on these PROs, please view: *epa.gov/gasstar/tools/recommended.html*): |
| ☐ Use fixed/portable compressors for pipeline pumpdown<br>☐ Use composite wrap repair for non-leaking pipeline defects<br>☐ Install electric compressors<br>☐ Use hot taps for in-service pipeline connections<br>☐ Replace wet compressor seals with dry seals |

| PROs you will be implementing | Please describe |
|---|---|
| PRO: Reducing emissions when taking compressors off-line<br>At what scale will this PRO be implemented?<br>☐ Company Wide<br>☐ Pilot Project<br>☒ Other: as appropriate / cost effective | Implemented engine blow-down recovery system at pilot station. Have fitted two additional stations, with two more planned for 2012. |
| PRO: Reduce pressure prior to blow down<br>At what scale will this PRO be implemented?<br>☐ Company Wide<br>☒ Pilot Project<br>☐ Other: | Developed process to determine when it is cost-effective to use pipeline pumpdown, and/or portable field compressors to reduce line pressure prior to blow down. |
| PRO: Capped ESD tests<br>At what scale will this PRO be implemented?<br>☐ Company Wide<br>☐ Pilot Project<br>☒ Other: as appropriate for facility | At stations where implemented, capped ESD tests are conducted annually for four sequential years, with a full ESD test in year five. |
| PRO:<br>At what scale will this PRO be implemented?<br>☐ Company Wide<br>☐ Pilot Project<br>☐ Other: | |
| PRO:<br>At what scale will this PRO be implemented?<br>☐ Company Wide<br>☐ Pilot Project<br>☐ Other: | |

OMB Control No. 2060-0328
Expires 07/31/2011

# ELEMENT 3
## Inventory Past Reductions

**An inventory of past reductions will help to create a permanent record of your past efforts.**

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future emission reduction efforts. Historical emission reductions identified as part of the inventory process can be reported to the Gas STAR Program.

Will you inventory past activities to include in your annual report? ☒ Yes ☐ No

If yes, please describe your company's plans for reviewing past emission reduction activities.

1. We will review methane reductions documented in our process improvement projects.
2. We will inventory the number of occurrences in other practices, and multiply them by the methane savings per event, as calculated through other Partner Reported Opportunities.

***The Natural Gas STAR Program thanks you for your time.***

***Please send completed forms to:***

**Regular Mail**
**The Natural Gas STAR Program**
**U.S. EPA (6207J)**
**1200 Pennsylvania Avenue, NW**
**Washington, DC 20460**

**Express/Overnight Mail**
**The Natural Gas STAR Program**
**U.S. EPA (6207J)**
**1310 L Street, NW**
**Washington, DC 20005**

*Questions? Please call Jerome Blackman: (202) 343-9630 or Fax (202) 343-2342*



NaturalGas
EPA POLLUTION PREVENTER